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Original Lectures.

LECTURES ON DISEASES OF THE EYE.

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The order I shall pursue in these lectures is to begin with the external tissues, and go on successively to the deeper parts. I shall preface the pathology of each structure by a resumé of its anatomy and physiology. I do this for the sake of clearness. That which first presents itself, then, is the eyelids.

THE EYELIDS.—PALPEBRÆ.

Anatomy.—The curtains which cover the eyeballs are composed of several layers of tissue, viz. skin, muscular fibre, fibro-cartilage, and mucous membrane. The skin is thin, supple, destitute of fat, and has a few fine hairs. It is connected to the subjacent layer of muscular fibres by delicate areolar tissue. The muscular fibres belong to the orbicularis palpebrarum. They are pale, and run in a curvilinear course like a sphincter muscle. They cover not only the eyelids, but reach to the brow above and to the cheek below, and out towards the temple. They form a layer, which is thinner at the palpebral portion than at the circumference of the muscle. The orbicularis is inserted into the vertical ridge of the lachrymal bone by a round tendon, the internal palpebral ligament, or tendo oculi, and also by direct attachment of its fibres to the ascending process of the sub-maxilla and to the lachrymal bone. The tendon is about a quarter of an inch long, and crosses in front of the lachrymal sac horizontally. Beneath the muscle is the tarsal cartilage, which forms the skeleton of the eyelid. In the upper lid it is wider than in the lower lid. At its free margin it is thick, and gradually becomes thin to its other border. The external surface is convex, the internal concave. The levator palpebræ superioris is inserted into the upper edge of the tarsal cartilage of the upper lid by a broad and thin tendon. Two kinds of glands are found in the tarsal cartilages, viz. the hair follicles and the Meibomian follicles. The hair follicles giving origin to the ciliæ form the most external or superficial rank, and are more numerous in the upper than in the lower tarsus. The ciliæ fringe the borders of the lids, guarding against the entrance of dust, and modifying the amount of light. They naturally point away from the globe, and are continually falling out and being renewed. Behind these simple follicles is found a single row of sebaceous follicles of a more complicated arrangement. They are racemose, each consisting of a central stem or tube, into which open clusters of globular follicles. The length of the Meibomian glands is nearly equal to the width of the tarsal cartilages. They may be traced upon the under surface of the erected lids as white lines shining through the transparent mucous membrane. They open upon the bevelled free border of the lids by minute apertures, which emit their unctuous secretion. This oily matter prevents the adhesion of the lids to each other, and tends to restrain the tears from overflowing. Lastly, the internal surface of the lids is clothed with mucous membrane, the palpebral conjunctiva, which adheres intimately to the fibro-cartilage. Its anatomy will be described when speaking of the conjunctiva.

The opening between the eyelids is called the palpebral fissure—their junctions are known as commissures, or angles, external and internal. The external angle is sharp, and marked by a few wrinkles of the skin; the tarsal cartilages are here connected at their extremities to the edge of the orbit by a few fibres of fibrous tissue sometimes called the external tarsal ligament. The internal angle, canthus (wheel), is shaped like a horse-shoe. The borders of the lids are here more rounded, and at the distance of about a quarter of an inch from the internal angle is a papilla, on whose summit is a small opening, the punctum lachrymale. The opening is directed against the surface of the eye. The ciliæ and Meibomian follicles do not extend beyond the puncta. A fine probe will enter the punctum by being pushed vertically, and its course will there be arrested unless turned in a horizontal direction, where it passes for a quarter of an inch along the canaliculus, into the lachrymal sac. The canaliculi lie near to the free border of the lids. Their calibre is small, and their internal surface is lined by mucous membrane. They open usually by a common orifice into the lachrymal sac. If the eyelids be dissected from behind, or if they be divided from the adjacent parts upon three sides and turned upon the nose—at the internal canthus, muscular fibres may be found starting from the border of the lids near the puncta and going behind the lachrymal sac to be attached to the lachrymal bone. They are generally few and pale. I have, however, seen them florid, and easily recognised. They compose the tensor tarsi or muscle of Horner.

The blood-vessels of the eyelids come from the temporal arteries, the arteria angularis nasi, the supra-orbital, the infra-orbital, and other twigs from the orbit. By the angular and the supra-orbital arteries a very important anastomosis is effected between the face and the cavity of the cranium—between the external and the internal carotids. The veins correspond to the arteries. The nerves of the skin are branches of the fifth pair—the motor nerve of the orbicularis is the facial or seventh nerve—the motor nerve of the levator palpebræ superioris is the motor communis oculi or third nerve.

Physiology.—The eyelids protect the eye against foreign particles, against excessive light, and diffuse the lachrymal secretion over the surface. Fishes need no apparatus for moistening the eyes, nor are they exposed to great intensity of light—they have neither lachrymal apparatus nor eyelids. Birds, on the contrary, have three eyelids—the third, or membrana nictitans, is drawn over the cornea when the light is disagreeably intense. Winking is a momentary relaxation of the levator palpebræ and simultaneous contraction of the orbicularis, giving the levator rest, and spreading the conjunctival secretion over the cornea. The action of the orbicularis is precisely like that of a sphincter, and it would throw the lids into wrinkles, but that they are kept smooth by the resistance of the fibro-cartilages. By the contraction of the orbicular the upper lid is depressed, and the lower raised, until their edges meet. When it relaxes the lower lid falls, and the upper lid may be raised by the levator. The levator tends to pull the upper lid back into the orbit, causing the surface of the lid to hug and sweep over the globe. If the levator be paralysed the occipito-frontalis can by strong effort open the palpebral fissure imperfectly, but the mode of action is very different from that of the levator. The eyelids are constantly in close apposition to the globe. The fluid interposed renders their movement easy, and at the same time serves to maintain their contact. More will be said of the action of the tensor tarsi and orbicularis in speaking of the lachrymal apparatus.

Diseases of the Eyelids.—The skin is subject to the same eruptions as are other parts of the tegumentary surface, viz. eczema, herpes, syphilitic eruptions, etc., and it also becomes the seat of warts, cancroid, of lupus, etc. These diseases do not require any special treatment on account of their palpebral location.

Œdema sometimes occurs suddenly in the eyelid, without other disease. The affection is painless, the lids swollen, closed, the skin shining, of natural color. The only treatment needful is the application of cold water, and the swelling subsides in a few days.

Abscess may form in the lids. They will be swollen and closed, the skin of a livid red, the cuticle inclined to desquamate; there will be heat or pain in the part. There will be some secretion from the conjunctiva gluing the

ciliæ together. Suppuration occurs rapidly in the loose areolar tissue of the lids, and it is important to make an early incision into the abscess. If allowed to open of itself the lid will be very liable to deformity in the healing, because of the great destruction of tissue.

This caution is to be especially observed in phlegmonous erysipelas of the face, where abscess is apt to occur in the lids very early, and remain undiscovered on account of the general swelling. The incision should be made parallel to the tarsus, and be long enough to lay open the abscess freely.

Ecchymosis, the result of blows, operations, wounds, takes from one to six weeks for absorption. The process may perhaps be hastened by stimulating lotions, as alcohol and water, or tincture of arnica—a favorite application of prizefighters is a piece of raw beef.

Spasm of the Orbicularis — Blepharo-spasm, occurs under various circumstances. 1st, as a symptom of inflammation of several textures of the eye; 2d, from the lodgment of a foreign particle under the lid; 3d, as part of the muscular disturbance in chorea; 4th, as a kind of habit. In the first three cases it is only a symptom whose removal will follow the subsidence of the primary disease. In the last case, if the habit of twitching the lids have been long established, it cannot usually be broken up. Persons are sometimes worried by the spasmodic twitching of a few fibres of the orbicularis without closure of the lids. Simple rubbing will often stop it. They will generally be satisfied if only assured that the affliction is harmless.

Paralysis of the Orbicularis—Lagophthalmos—Is one of the effects of paralysis of the seventh or facial nerve, the old "portio dura." The symptoms on the part of the eyelids consist in the inability to shut them, and in a habitual stare that makes this eye appear to be larger than its fellow. This is the effect of the drooping of the lower lid and the lifting of the upper lid by the unopposed levator. If the paralysis be complete there will be no attempt to wink. During sleep the palpebral fissure remains open, and the sclerotica is exposed; the cornea cannot be seen, because it retreats upwards under the upper lid. Another effect of the paralysis, whether complete or partial, is epiphora. The lachrymal puncta are not held against the globe, and the propelling power for the expulsion of tears being wanting, they stand in the conjunctiva, and occasionally overflow the cheek.

The diagnosis is easy, by noticing the relaxed and expressionless character of that side of the face, and by the inability of the patient to shut the eyelids. Treatment will vary according to the cause and the duration of the paralysis. Facial paralysis sometimes occurs in young children, and is afterwards recovered from. In the early period of the disease, blisters, stimulating liniments, iodide of potassium, and electricity should be employed. If it happens from injury of the head, intra-cranial tumor, or exudation, or other incurable disease, and have existed a long time, nothing remains but a surgical operation to relieve the lagophthalmus. This operation consists in shortening the palpebral fissure, by making the upper and lower lids adhere to each other for a certain distance from the external commissure. The mode of doing this will be seen by the diagram. Two incisions are made through the skin, as indicated in the figure; the flap of skin dissected from the muscle and the borders of the lids made raw, to an extent needed by the case. The edges of the wound are then brought together by sutures. It will be more secure to put a hare-lip suture at the angle where the lids are joined, for there is a strong tendency to separation. The eyelids should be held together by strips of isinglass plaster. Another mode of operating may be adopted where the eyelids are very loose, and a greater effect is desired. I employed it in a young mulatto girl, æt. 11, in whom facial palsy had occurred in infancy, and from which she had nearly recovered. It may be thus represented: Triangular flaps were taken from the skin of the upper and lower lids, at the outer angle, the flap from the upper lid being the larger, and including in its base a longer extent of the tarsal edge. The wounds were united in a vertical line. Union took place by second intention, and some wrinkles remained in the skin, but the palpebral fissure was shortened; the eyelids could be quite shut, and epiphora ceased.

Paralysis of the levator palpebræ superioris produces the opposite condition of Ptosis.—The upper lid falls down. Its edge may descend below the pupil, and completely shut out the light. The levator may be the only one of the muscles supplied by the third nerve to suffer injury, or the remaining muscles may be implicated. In the latter case there will be divergent squint and double vision. This being so, the patients usually make no effort to see with this eye. But if only the levator be affected, they attempt to uncover the pupil by bending the head backwards, and strongly contracting the occipito-frontalis muscle, which, wrinkling the forehead, and arching the eyebrow, imperfectly lifts up the lid. During this effort the skin of the lid remains perfectly smooth.

If medical treatment by stimulating liniments, by blisters, cupping, the administration of iodide of potassium, and by electricity, have been exhausted, and time enough have elapsed to give the efforts of nature and medicine a fair trial, a measure of relief can be afforded by surgery. An oval piece may be taken from the skin of the lid, whose length shall be nearly that of the tarsus, and breadth determined by the laxity of the skin. A transverse fold may be pinched up in the fingers, or by a forceps devised for thie purpose, cut off with scissors; the edges of the wound united by interrupted sutures. The nicety of the operation consists in apportioning the exact amount of skin to be removed. Another operation has lately been performed by Graefe, to relieve ptosis: To seek for the tendon of the levator at its insertion with the fibro-cartilage, divide it across, cut off a section, and attach it again to its insertion by sutures. The operation has once, to my knowledge, been done in this city. The dissection was found to be extremely difficult and uncertain, and the result unsatisfactory. A wire spring clamp has also been devised, to pinch up a fold of skin, and thus avoid an operation, but I have never seen a patient willing to wear such an unornamental appendage. It has been proposed to pass sutures through a fold of skin, and tying them tightly, to cause a permanent wrinkle and shortening of the lid, without removing any skin. The process of healing is tedious and painful, and the cure apt to be imperfect, as the skin gradually stretches out.

Epicanthus.—This is a congenital peculiarity consisting of a fold of skin running in a crescentic form, from the inner end of the eyebrow down the side of the nose, upon the cheek. The fold overlaps the internal canthus, and when large, gives an unpleasant expression to the face. Slight degrees are not unfrequent, especially among children. In Sichel's plates is a picture of a striking instance of this deformity. As the person grows older the nose increases in height, and may quite obliterate the redundant folds. I have once been called on to relieve the deformity by operation. The patient was a girl, twelve years old, who possessed this unnatural feature in a marked degree. The operation consisted in pinching up the skin over the root of the nose, and between the eyebrows, which should stretch out the lateral folds, to cut this off, and unite the wound by sutures. In this case suppuration occurred, and union by second intention; but the object was attained, while the resulting scar was not conspicuous. Such cases are rare, as their relief is simple.

Original Communications.

THREE CASES OF STRANGULATED HERNIA,

IN WHICH THE OPERATION WAS PERFORMED WITHOUT OPENING THE SAC.

By HENRY B. SANDS, M.D.,
SURGEON TO ST. LUKE'S HOSPITAL.

Case I.—*Strangulated Femoral Hernia.—Operation without opening the Sac.—Recovery.*—On October 11th, 1862, I met Dr. S. S. Purple, in consultation, to see a lady, residing in this city, who had suffered with the usual symptoms of strangulated hernia for about thirty hours. The patient was 25 years of age, married, and in good general health. She noticed, a little more than two years ago, a small swelling in her right groin, concerning the origin of which she could give no explanation. At first occasioning no inconvenience it was soon observed that at times the swelling would suddenly enlarge, the increase in size being accompanied by pain and vomiting, and that after a longer or shorter interval the pain and vomiting would disappear —their disappearance being coincident with the subsidence of the tumor. She had sought surgical aid but once before, when Dr. Purple succeeded in returning the protrusion by the employment of the taxis. The present attack began on the day previous to my visit, shortly after the patient had risen from bed. Whilst dressing herself she was taken with pain, and soon became aware that the tumor had descended. At the same time, according to her statement, she had a tolerably free evacuation from the bowels. The pain then grew more severe, being most intense in the neighborhood of the umbilicus, and vomiting of a persistent character soon followed. These symptoms continued, without any amelioration, up to the time I first saw her. The attacks of vomiting were then taking place at intervals of from fifteen minutes to half an hour. The matters vomited were greenish and watery, but not stercoraceous. Pulse 90; skin warm and moist; countenance pale, and expressive of suffering. A tumor, about as large as a hen's egg, was situated in the right groin, immediately over Poupart's ligament. It was tense, elastic, resonant on percussion, and not very painful. It lay over the inner half of Poupart's ligament, was freely movable above and externally, but firmly fixed at the situation of the femoral ring. Dr. Purple had already made a careful and patient attempt at reduction, but without the use of an anæsthetic. It was now decided to render the patient insensible, and then to act as circumstances might require. Ether having been administered, the taxis was again employed, but without success, and I accordingly proceeded to relieve the stricture by means of the knife. I made a single, straight incision, about two inches long, on the inner side of the tumor, and soon arrived at the level of the sac, which was in good condition, and evidently without any sign of gangrene. Leaving the sac unopened, the forefinger of the left hand was passed with care up to the situation of the femoral ring, into which I introduced a hernia knife, and, directing the edge of the instrument, in the usual manner, upwards and inwards, made a limited division of tightly constricting tendinous fibres. An assistant having then elevated the patient's pelvis by raising the lower extremities (an expedient which, in my opinion, greatly facilitates the reduction of hernial tumors), I succeeded, by very slight manipulation, in pushing back a knuckle of protruded intestine, which returned to the abdominal cavity with a gurgling noise. The sac then felt as though it contained a small piece of omentum, adherent to its inner surface, but it was deemed best to leave this undisturbed, there being no reasonable doubt that all strangulation was removed. There was hardly any bleeding during the operation, which was done with comparative ease, and without any such disturbance of the tissues as usually happens in the ordinary procedure where the sac is laid open. The wound was closed with silver sutures, and dressed with adhesive straps, a compress of lint, and a spica bandage.

Oct. 14th.—Everything has gone on well since the operation. The vomiting and pain ceased almost immediately, and small doses of opium produced quiet refreshing sleep. Yesterday, Dr. Purple prescribed a tablespoonful of castor oil, which, in a few hours, caused a healthy-looking fæcal evacuation. Wound healing well.

Oct. 18.—Patient well. The wound has healed completely by adhesion, and the dressings have all been removed.

Case II.—*Strangulated Femoral Hernia.—Operation without opening the Sac.—Recovery, with Fæcal Fistula.*—On February 15th, 1863, I saw Mrs. J——, of this city, in consultation with Drs. Van Antwerp and Vosburgh. The patient was about 60 years of age, and had for many years been in feeble health. She stated that she had had a rupture in the left groin during the past nine years, which was probably caused by over work, and for which she had never worn a truss. It had at times given her a good deal of trouble, by the pain and vomiting which accompanied its descent; she was almost always able, however, to effect a reduction without assistance, although sometimes four or five hours would elapse before her efforts proved successful. Soon after getting out of bed on the 13th inst., she felt the tumor descend, and was seized with the desire to go to stool, where she had two evacuations from the bowels. Pain and vomiting then set in, and continued through the day, the whole of which she spent in forcible but fruitless attempts to replace the protruding organs. On the 14th the symptoms becoming more severe, she sent for her attending physician, Dr. Van Antwerp, who, with the help of Dr. Vosburgh, made several unsuccessful attempts at reduction. At the time of my visit, on the 15th inst., her condition was as follows:—Pulse 104, small and feeble; skin cool, and covered with moisture; abdomen somewhat tense, but not painful, except in the neighborhood of the tumor; matters vomited, thin and yellowish, but without stercoraceous odor. The hernia was situated over Poupart's ligament, covering its inner two-thirds; it was hemispherical in shape, and not distinctly defined, the skin and subcutaneous tissues being inflamed and œdematous. Pressure gave acute pain, but caused no change in its position, which was fixed and immovable. The patient having been put under the influence of ether, I made an incision, as in the former case, on the inner side of the tumor, and found the tissues between the integument and the sac considerably thickened, and matted together into a mass, in which the so-called "coverings" of the sac were not distinguishable. The parts were also unusually vascular, several vessels requiring the ligature before the sac was exposed. This having been accomplished, and the sac appearing to be healthy, I determined, if possible, to leave it intact, and to relieve the stricture by external division. I found the femoral ring tolerably tight, and divided Gimbernat's ligament with a hernia knife, after which I made an attempt at reduction, and failed. I then drew the sac downwards, so as to get a view of its neck, across which several short, glistening, fibrous bands could be seen running. These I cut through carefully, being cautious not to open the sac, and as soon as this had been done I was able to return the intestine, which slipped up with a gurgling noise. A small portion of omentum remained unreduced, and could be felt adherent to the sac; this was left without further interference, and the wound in the integument brought together with sutures and adhesive strap, over which were applied a compress and spica bandage. It is worthy of remark that, in cutting the stricture, the obturator artery, which had an abnormal origin, and ran over the neck of the sac, was accidentally divided by the hernia knife; it was easily secured by the ligature, however, after having drawn up the tendinous margin of the femoral ring, so as to expose the divided ends, both of which had to be tied, before the hæmorrhage was controlled. After the operation the pa-

tient rallied slowly, and during the first week, the progress of the case seemed favorable; there were no signs of peritonitis; the bowels moved on the sixth day, and the greater part of the wound healed by the first intention. On the ninth day, however, a small quantity of yellowish fluid made its appearance at the wound, having a fæcal odor, and on the following day this grew more abundant, its character being unmistakable. An attempt was made to limit the discharge by making firm pressure over the wound, but this was not well borne, and for some days a very considerable quantity of fæces passed out at the artificial opening. Meanwhile the bowels continued to act with almost natural regularity, and the patient's general condition, though uncomfortable, did not appear to be critical. The discharge began to diminish rapidly about three weeks after the operation, and is now so small as to be scarcely perceived, the opening having been reduced to a narrow fistulous track.

Case III.—*Strangulated Inguinal Hernia, complicated with an Undescended Testis.—Operation without opening the Sac.—Recovery.*—In the afternoon of Wednesday, Feb. 25, 1863, I visited Thomas ——, at Rahway, New Jersey, where I met Drs. Abernethy and Drake, of Rahway, and Mr. Marsh, the truss-maker, of New York. The patient was a slender, delicate looking lad, sixteen years of age. He had for several years been subject to a small hernia on the right side, which, however, had never given him any trouble, until the Sunday previous, when, after a fall, the swelling became suddenly larger, and did not disappear as usual. The ordinary symptoms, pain, vomiting, and constipation followed, and on Monday he was seen by his attending physician, Dr. Abernethy, who administered chloroform, and with the assistance of Mr. Marsh tried to reduce the tumor. Failing in this, and the symptoms not being very urgent, various external remedies were applied, and active interference delayed until Wednesday, when, signs of commencing peritonitis showing themselves in addition to the other symptoms, it was thought best to seek relief by surgical means. At the time of my visit, he had the usual aspect of a person suffering from strangulated hernia, but was in a tolerably good condition, and without any signs of prostration. The abdomen was somewhat tense and tympanitic, and there was pain, referred chiefly to the region of the umbilicus. The hernial swelling, situated on the right side, was about as large as a lemon, and evidently inguinal; it was quite tense, elastic, and resonant on percussion. On the same side it was noticed that the testicle had not descended into the scrotal cavity, and upon examining the hernial tumor, it was found that pressure on its posterior part caused the sickening pain peculiar to that organ, the outline of which, however, could neither be seen nor felt. Ether having been administered, I operated in the following manner:—A single straight incision was carried over the middle of the tumor, extending from just above its neck downwards for about three inches. Having, by careful dissection, exposed the tendon of the external oblique muscle, I cut through it so as to lay open the whole length of the inguinal canal, this step of the operation evidently affording great relief to the constriction. Failing to effect reduction by this means, however, I drew down the sac so as to expose its neck, when several circular fibrous bands came into view, consisting apparently of thickened sub-serous cellular tissue. The division of these with a scalpel gave complete relief to the strangulation, the gentlest manipulation sufficing to return the contents of the sac, behind which, as it lay loose and flabby in the wound, an oval body could be felt, evidently the undescended testis, which had been arrested in the inguinal canal. I left it where I found it, and closed the wound in the usual manner. I have not seen the patient since the operation, but have learned from his physician that it was entirely successful in relieving the symptoms, and that he recovered rapidly without any signs of peritonitis.

Remarks.—My object in detailing the above cases, is to bring before the notice of the profession an operation which, though well known in Europe, and almost exclusively practised by several English surgeons of eminence, has received little if any attention on the part of the profession in this country. So far as I have been able to inquire, our American periodicals do not contain a single recorded case in which this operation has been performed. The operation for the relief of strangulated hernia without opening the sac is of French origin, having been proposed by Petit in 1718. The proposal met with little favor, however, until 1833, when the procedure was revived by Aston Key, and subsequently advocated by Luke, Gay, Bryant, and several other English surgeons. The advantages claimed for the operation are, its simplicity, and comparative safety, the patient being spared the danger of peritonitis caused by the opening of the sac and the exposure of its contents. In regard to the first point, I am satisfied that it is much more simple than the ordinary operation, and that it involves much less disturbance of the tissues; it also appears to me to be exceedingly easy of execution, especially in cases of femoral hernia. As regards the comparative safety of the operation, this lies in the fact that the sac is left unopened. That the opening of the sac, together with the exposure and handling of its contents, is a circumstance which favors the occurrence of peritonitis, and which tends to increase the latter when already existing, will, I think, hardly be denied by those who have seen or treated many cases requiring operation. The most important statistics bearing on the comparative safety of the two methods are given by Mr. Luke, and the results presented are the more valuable, as all the cases occurred in Mr. Luke's own practice. Of 84 cases requiring an operation, the sac was opened in 25; in 59 it was left unopened. Of the former, in which the sac was opened, 8 died, or 32 per cent.; of the latter 7 died, hardly 12 per cent. The cases I have narrated are too few in number to warrant any general conclusions, yet I cannot help contrasting them with other cases where I operated by the usual method, and in which peritonitis of an alarming character almost immediately followed. There have been two principal objections urged against Petit's operation—1st, the danger of returning into the abdomen a portion of intestine strangulated by the contents of the sac; and, 2d, that of returning a band which is either gangrenous or ruptured. In regard to the first of these dangers, it may be remarked that the existence of internal strangulation is very rare, and that where it does exist there are usually adhesions between the sac and its contents, which compel the opening of the former in order to effect reduction. The same fact may be stated with reference to the danger of returning the intestine in a state of gangrene, this condition generally being preceded by such a degree of inflammatory action as is sufficient to produce an adhesion of the contents to the neck of the sac. Moreover, some opinion may be formed as to the existence or non-existence of mortification by attending to the general symptoms, and by noticing the length of time that has elapsed since the strangulation began; also, during the operation, the presence of gangrene is often announced by change in the appearance of the sac, even before this is laid open. But that the risk of returning a gangrenous intestine, or one doomed to gangrene, really does exist, is proved by the second case I have related; and yet the result of this case is especially interesting, as showing that such a procedure is not necessarily fatal, and that leaving the sac unopened does not prevent the establishment of an artificial anus. Some very instructive facts bearing on this question are given by Mr. Bryant, in Guy's Hospital Reports, 3d series, vol. 2, where an analysis is presented of 126 fatal cases of hernia. Mr. Bryant shows conclusively that the danger of fæcal extravasation, after the return of a mortified intestine into the abdominal cavity, has been very much exaggerated, this having occurred in one only out of six cases, and then at a remote period, after several weeks of favorable progress. In the same paper it is also shown that, where the intestine is gangrenous, a fatal result follows

much earlier when it is left in the sac and laid open, than when it is returned to the sac's mouth, and the establishment of an artificial anus left to nature. The reason why fæcal extravasation does not more often occur is doubtless to be found in the fact that, peristaltic action being arrested in the mortified intestine, it remains stationary at the mouth of the sac, so that before it gives way the inflammatory plastic exudation has furnished a barrier, which defends the cavity of the peritoneum against the entrance of fæces. In conclusion, I may state that, in my opinion, there are few cases in which the operation without opening the sac should not be tried before resorting to the ordinary procedure; and that, if performed early, it is, as some author has already observed, little more than the employment of the taxis, with the addition of a superficial incision.

61 East 12th Street, N. Y., March 20, 1863.

AMPUTATIONS,

WHEN TO BE PERFORMED, AND WHEN NOT REQUIRED IN MILITARY SURGERY.

[Being a paper read before the N. Y. State Medical Society, at its last Meeting.]

By JOHN SWINBURNE, M.D.,

OF ALBANY, N.Y.

The following are the rules which I have adopted for amputation after careful study and experience; some of these rules I have adopted from the Sanitary Report on "Amputation:"—

1. "Cases where a limb is nearly or completely torn away, leaving a ragged stump."

2. "Cases in which the soft parts of a limb are extensively lacerated or contused, and the principal arterial and nervous trunks destroyed, and the bone denuded or fractured."

3. "Cases in which a similar condition (of the soft parts) exists without either fracture or denudation of bone."

4. Cases in which the artery or arteries are destroyed, so as to cut off circulation below the wound, and where gangrene would follow. Circulation ceasing, and the extremity becoming *cold.*

5. Compound and comminuted fracture of the knee-joint requires amputation, while the passage of small balls which do not shatter or open the joint too extensively, does not necessitate amputation.

6. Compound and comminuted gunshot injuries of the ankle-joint made by minié balls may require amputation, particularly where material injury is done to the arteries. Ordinary gunshot wounds of the same joint do not necessitate amputation.

7. Compound and comminuted gunshot injuries of the femur or tibia which extend into the knee-joint, may require amputation.

The foregoing rules are those which I consider applicable to amputation. I will now proceed to give such rules as seem to me most reasonable as governing excision; and shall assume that the main arteries are uninjured, and the parts beyond the wound possessed of full vitality:—

1. Excision should be confined to the upper extremities—the shoulder and elbow being the principal parts upon which that operation should be practised.

2. If the head of the humerus is shattered by a gunshot excision is the only remedy. If the comminution extends to the shaft, the loose portions only which are deprived of periosteum need be removed—the residue left to granulate. If the glenoid cavity is crushed it can be removed with a chain saw, or its injured portion gouged out.

3. If the elbow-joint is crushed or comminuted by a ball, excision is the only remedy. If the injury is confined to the articulating end of the humerus, remove it; but do not disturb the ends of the radius or ulna—on the contrary, if the injury be confined to the articulating ends of the radius, or radius and ulna, remove both; but not the humeral articulation.

If the articulating ends of the humerus, radius, and ulna are crushed, remove them all. What is meant in the books by partial excision, is the removal of a portion of the joint, such as part of the humeral articulation, or the articulating end of the radius or ulna only.

On the contrary, the removal of the entire half of the joint results in a new articulation, and not in anchylosis, as is often the case in partial excision. If the comminution extends to the shaft of the humerus, or radius and ulna, remove its loose spicula, and leave the rest to nature.

4. In comminuted compound fracture of the carpal end of the radius, or radius and ulna, excision of the articulating ends affords the most reasonable prospect of success. Leaving it to nature is far preferable to amputation. Never amputate for this injury.

5. Compound gunshot injuries of the carpus or *metacarpus* seldom if ever require either excision or amputation. Remove the loose bones, and treat as a simple wound.

6. In compound gunshot injuries of the phalanges excision can be practised only with varying success, owing to the size of the bullet and smallness of the member. The rule is to save as much as possible. Injuries to these parts inflicted by buck-shot or pistol balls do not, as a rule, require amputation. On the contrary, most of them can be saved.

7. In compound and comminuted injuries of the humeral shaft, excision or amputation should never be performed. The loose spicula should be removed, and the case treated as an ordinary compound fracture. If, however, the comminution extends to the articulation, it should be excised with the loose spicula, while the fragments of the shaft which still retain their periosteum should not be disturbed.

8. The same rule applies to the shaft of either or both bones of the forearm. In all cases avoid constriction by bandaging.

9. The treatment of compound and comminuted fractures of the thigh becomes a matter of serious consideration, since it involves many important points. Statistics from the Crimean War show that in amputation through the hip-joint all died. In the upper third 87.0. In the middle third 60.0 died. In the lower third 56.6 died; while the present war will, I think, demonstrate that even a greater proportion than this prove fatal.

Excision of the *shaft* is evidently out of the question, since all die after the operation. The question then arises, shall we amputate? Or, shall we treat such cases as ordinary compound fractures? I prefer the latter, and have from the first thought it the most reasonable treatment. The plan I propose is to place the patient on a bed or stretcher, extend the limb as near as possible to its normal length without giving too great pain. Retain it in that position by fastening the foot to the foot of the bed or stretcher by means of adhesive plaster as in ordinary compound fractures, as I have on other occasions illustrated.* Make the counter extension thereon by an inclined plane against which the body impinges by elevating the foot of the bed or stretcher—or the use of a perineal belt fastened to the head of the bed or stretcher. To obviate inversion or eversion of the foot, I place bags of sand on each side of the foot. There should be no bandaging of the leg or thigh. If collections of matter follow, free incisions may become necessary to relieve constrictions, and to facilitate the discharge of such matter and spicula of bone—irrigation or the application of cloth wet in cold or warm water must be continued to the limb until inflammation has passed off.

Under no circumstances must the patient be removed from the bed or stretcher, until the consolidation of the bone is considerable, when artificial support can be given, and the patient allowed to go about on crutches. In this way I contend that many more lives can be saved than by

* See Transactions State Medical Society for 1861; also Medical Times and Medical and Surgical Reporter same year.

tient rallied slowly, and during the first week, the progress of the case seemed favorable; there were no signs of peritonitis; the bowels moved on the sixth day, and the greater part of the wound healed by the first intention. On the ninth day, however, a small quantity of yellowish fluid made its appearance at the wound, having a fæcal odor, and on the following day this grew more abundant, its character being unmistakable. An attempt was made to limit the discharge by making firm pressure over the wound, but this was not well borne, and for some days a very considerable quantity of fæces passed out at the artificial opening. Meanwhile the bowels continued to act with almost natural regularity, and the patient's general condition, though uncomfortable, did not appear to be critical. The discharge began to diminish rapidly about three weeks after the operation, and is now so small as to be scarcely perceived, the opening having been reduced to a narrow fistulous track.

Case III.—*Strangulated Inguinal Hernia, complicated with an Undescended Testis.—Operation without opening the Sac.—Recovery.*—In the afternoon of Wednesday, Feb. 25, 1863, I visited Thomas ——, at Rahway, New Jersey, where I met Drs. Abernethy and Drake, of Rahway, and Mr. Marsh, the truss-maker, of New York. The patient was a slender, delicate looking lad, sixteen years of age. He had for several years been subject to a small hernia on the right side, which, however, had never given him any trouble, until the Sunday previous, when, after a fall, the swelling became suddenly larger, and did not disappear as usual. The ordinary symptoms, pain, vomiting, and constipation followed, and on Monday he was seen by his attending physician, Dr. Abernethy, who administered chloroform, and with the assistance of Mr. Marsh tried to reduce the tumor. Failing in this, and the symptoms not being very urgent, various external remedies were applied, and active interference delayed until Wednesday, when, signs of commencing peritonitis showing themselves in addition to the other symptoms, it was thought best to seek relief by surgical means. At the time of my visit, he had the usual aspect of a person suffering from strangulated hernia, but was in a tolerably good condition, and without any signs of prostration. The abdomen was somewhat tense and tympanitic, and there was pain, referred chiefly to the region of the umbilicus. The hernial swelling, situated on the right side, was about as large as a lemon, and evidently inguinal; it was quite tense, elastic, and resonant on percussion. On the same side it was noticed that the testicle had not descended into the scrotal cavity, and upon examining the hernial tumor, it was found that pressure on its posterior part caused the sickening pain peculiar to that organ, the outline of which, however, could neither be seen nor felt. Ether having been administered, I operated in the following manner:—A single straight incision was carried over the middle of the tumor, extending from just above its neck downwards for about three inches. Having, by careful dissection, exposed the tendon of the external oblique muscle, I cut through it so as to lay open the whole length of the inguinal canal, this step of the operation evidently affording great relief to the constriction. Failing to effect reduction by this means, however, I drew down the sac so as to expose its neck, when several circular fibrous bands came into view, consisting apparently of thickened sub-serous cellular tissue. The division of these with a scalpel gave complete relief to the strangulation, the gentlest manipulation sufficing to return the contents of the sac, behind which, as it lay loose and flabby in the wound, an oval body could be felt, evidently the undescended testis, which had been arrested in the inguinal canal. I left it where I found it, and closed the wound in the usual manner. I have not seen the patient since the operation, but have learned from his physician that it was entirely successful in relieving the symptoms, and that he recovered rapidly without any signs of peritonitis.

Remarks.—My object in detailing the above cases, is to bring before the notice of the profession an operation which, though well known in Europe, and almost exclusively practised by several English surgeons of eminence, has received little if any attention on the part of the profession in this country. So far as I have been able to inquire, our American periodicals do not contain a single recorded case in which this operation has been performed. The operation for the relief of strangulated hernia without opening the sac is of French origin, having been proposed by Petit in 1718. The proposal met with little favor, however, until 1833, when the procedure was revived by Aston Key, and subsequently advocated by Luke, Gay, Bryant, and several other English surgeons. The advantages claimed for the operation are, its simplicity, and comparative safety, the patient being spared the danger of peritonitis caused by the opening of the sac and the exposure of its contents. In regard to the first point, I am satisfied that it is much more simple than the ordinary operation, and that it involves much less disturbance of the tissues; it also appears to me to be exceedingly easy of execution, especially in cases of femoral hernia. As regards the comparative safety of the operation, this lies in the fact that the sac is left unopened. That the opening of the sac, together with the exposure and handling of its contents, is a circumstance which favors the occurrence of peritonitis, and which tends to increase the latter when already existing, will, I think, hardly be denied by those who have seen or treated many cases requiring operation. The most important statistics bearing on the comparative safety of the two methods are given by Mr. Luke, and the results presented are the more valuable, as all the cases occurred in Mr. Luke's own practice. Of 84 cases requiring an operation, the sac was opened in 25; in 59 it was left unopened. Of the former, in which the sac was opened, 8 died, or 32 per cent.; of the latter 7 died, hardly 12 per cent. The cases I have narrated are too few in number to warrant any general conclusions, yet I cannot help contrasting them with other cases where I operated by the usual method, and in which peritonitis of an alarming character almost immediately followed. There have been two principal objections urged against Petit's operation—1st, the danger of returning into the abdomen a portion of intestine strangulated by the contents of the sac; and, 2d, that of returning a band which is either gangrenous or ruptured. In regard to the first of these dangers, it may be remarked that the existence of internal strangulation is very rare, and that where it does exist there are usually adhesions between the sac and its contents, which compel the opening of the former in order to effect reduction. The same fact may be stated with reference to the danger of returning the intestine in a state of gangrene, this condition generally being preceded by such a degree of inflammatory action as is sufficient to produce an adhesion of the contents to the neck of the sac. Moreover, some opinion may be formed as to the existence or non-existence of mortification by attending to the general symptoms, and by noticing the length of time that has elapsed since the strangulation began; also, during the operation, the presence of gangrene is often announced by change in the appearance of the sac, even before this is laid open. But that the risk of returning a gangrenous intestine, or one doomed to gangrene, really does exist, is proved by the second case I have related; and yet the result of this case is especially interesting, as showing that such a procedure is not necessarily fatal, and that leaving the sac unopened does not prevent the establishment of an artificial anus. Some very instructive facts bearing on this question are given by Mr. Bryant, in Guy's Hospital Reports, 3d series, vol. 2, where an analysis is presented of 126 fatal cases of hernia. Mr. Bryant shows conclusively that the danger of fæcal extravasation, after the return of a mortified intestine into the abdominal cavity, has been very much exaggerated, this having occurred in one only out of six cases, and then at a remote period, after several weeks of favorable progress. In the same paper it is also shown that, where the intestine is gangrenous, a fatal result follows

much earlier when it is left in the sac and laid open, than when it is returned to the sac's mouth, and the establishment of an artificial anus left to nature. The reason why fæcal extravasation does not more often occur is doubtless to be found in the fact that, peristaltic action being arrested in the mortified intestine, it remains stationary at the mouth of the sac, so that before it gives way the inflammatory plastic exudation has furnished a barrier, which defends the cavity of the peritoneum against the entrance of fæces. In conclusion, I may state that, in my opinion, there are few cases in which the operation without opening the sac should not be tried before resorting to the ordinary procedure; and that, if performed early, it is, as some author has already observed, little more than the employment of the taxis, with the addition of a superficial incision.

61 East 12th Street, N. Y., March 20, 1863.

AMPUTATIONS,

WHEN TO BE PERFORMED, AND WHEN NOT REQUIRED IN MILITARY SURGERY.

[Being a paper read before the N. Y. State Medical Society, at its last Meeting.]

By JOHN SWINBURNE, M.D.,

OF ALBANY, N.Y.

The following are the rules which I have adopted for amputation after careful study and experience; some of these rules I have adopted from the Sanitary Report on "Amputation:"—

1. "Cases where a limb is nearly or completely torn away, leaving a ragged stump."

2. "Cases in which the soft parts of a limb are extensively lacerated or contused, and the principal arterial and nervous trunks destroyed, and the bone denuded or fractured."

3. "Cases in which a similar condition (of the soft parts) exists without either fracture or denudation of bone."

4. Cases in which the artery or arteries are destroyed, so as to cut off circulation below the wound, and where gangrene would follow. Circulation ceasing, and the extremity becoming *cold*.

5. Compound and comminuted fracture of the knee-joint requires amputation, while the passage of small balls which do not shatter or open the joint too extensively, does not necessitate amputation.

6. Compound and comminuted gunshot injuries of the ankle-joint made by minié balls may require amputation, particularly where material injury is done to the arteries. Ordinary gunshot wounds of the same joint do not necessitate amputation.

7. Compound and comminuted gunshot injuries of the femur or tibia which extend into the knee-joint, may require amputation.

The foregoing rules are those which I consider applicable to amputation. I will now proceed to give such rules as seem to me most reasonable as governing excision; and shall assume that the main arteries are uninjured, and the parts beyond the wound possessed of full vitality:—

1. Excision should be confined to the upper extremities—the shoulder and elbow being the principal parts upon which that operation should be practised.

2. If the head of the humerus is shattered by a gunshot excision is the only remedy. If the comminution extends to the shaft, the loose portions only which are deprived of periosteum need be removed—the residue left to granulate. If the glenoid cavity is crushed it can be removed with a chain saw, or its injured portion gouged out.

3. If the elbow-joint is crushed or comminuted by a ball, excision is the only remedy. If the injury is confined to the articulating end of the humerus, remove it; but do not disturb the ends of the radius or ulna—on the contrary, if the injury be confined to the articulating ends of the radius, or radius and ulna, remove both; but not the humeral articulation.

If the articulating ends of the humerus, radius, and ulna are crushed, remove them all. What is meant in the books by partial excision, is the removal of a portion of the joint, such as part of the humeral articulation, or the articulating end of the radius or ulna only.

On the contrary, the removal of the entire half of the joint results in a new articulation, and not in anchylosis, as is often the case in partial excision. If the comminution extends to the shaft of the humerus, or radius and ulna, remove its loose spicula, and leave the rest to nature.

4. In comminuted compound fracture of the carpal end of the radius, or radius and ulna, excision of the articulating ends affords the most reasonable prospect of success. Leaving it to nature is far preferable to amputation. Never amputate for this injury.

5. Compound gunshot injuries of the carpus or *metacarpus* seldom if ever require either excision or amputation. Remove the loose bones, and treat as a simple wound.

6. In compound gunshot injuries of the phalanges excision can be practised only with varying success, owing to the size of the bullet and smallness of the member. The rule is to save as much as possible. Injuries to these parts inflicted by buck-shot or pistol balls do not, as a rule, require amputation. On the contrary, most of them can be saved.

7. In compound and comminuted injuries of the humeral shaft, excision or amputation should never be performed. The loose spicula should be removed, and the case treated as an ordinary compound fracture. If, however, the comminution extends to the articulation, it should be excised with the loose spicula, while the fragments of the shaft which still retain their periosteum should not be disturbed.

8. The same rule applies to the shaft of either or both bones of the forearm. In all cases avoid constriction by bandaging.

9. The treatment of compound and comminuted fractures of the thigh becomes a matter of serious consideration, since it involves many important points. Statistics from the Crimean War show that in amputation through the hip-joint all died. In the upper third 87.0. In the middle third 60.0 died. In the lower third 56.6 died; while the present war will, I think, demonstrate that even a greater proportion than this prove fatal.

Excision of the *shaft* is evidently out of the question, since all die after the operation. The question then arises, shall we amputate? Or, shall we treat such cases as ordinary compound fractures? I prefer the latter, and have from the first thought it the most reasonable treatment. The plan I propose is to place the patient on a bed or stretcher, extend the limb as near as possible to its normal length without giving too great pain. Retain it in that position by fastening the foot to the foot of the bed or stretcher by means of adhesive plaster as in ordinary compound fractures, as I have on other occasions illustrated.* Make the counter extension thereon by an inclined plane against which the body impinges by elevating the foot of the bed or stretcher—or the use of a perineal belt fastened to the head of the bed or stretcher. To obviate inversion or eversion of the foot, I place bags of sand on each side of the foot. There should be no bandaging of the leg or thigh. If collections of matter follow, free incisions may become necessary to relieve constrictions, and to facilitate the discharge of such matter and spicula of bone—irrigation or the application of cloth wet in cold or warm water must be continued to the limb until inflammation has passed off.

Under no circumstances must the patient be removed from the bed or stretcher, until the consolidation of the bone is considerable, when artificial support can be given, and the patient allowed to go about on crutches. In this way I contend that many more lives can be saved than by

* See Transactions State Medical Society for 1861; also Medical Times and Medical and Surgical Reporter same year.

amputations, and of necessity with less mutilation. Hence, do not amputate for compound and comminuted fractures occurring in the shaft, neck, or head of the thigh-bone.*

If the head of the femur is detached and the joint opened it may require removal. This, however, may be a point for future consideration.

10. Gunshot injuries of the cancellated structure of the bones which enter into the formation of the knee-joint do not necessitate amputation.

I have seen several instances in which the ball had passed through the head of the tibia without wounding the joint, and still the patients are recovering with good limbs. One case where the ball was found to have passed through the insertion of the *ligamentum patellæ*, and deep into the canelli, was removed by the trephine, and the patient did well. Another did well where the ball was extracted from the cancellæ of the external condyle of the femur; therefore, unless a fracture of some magnitude extends into the joint, do not amputate.

11. In compound and comminuted fracture of the knee-joint I should advise amputation, though there may be wounds made by bullets through the joint without doing much injury to the bone or soft parts, in which case it may be advisable to try and save the limb. This seems more advisable when we take into consideration the facts as recently elucidated by Dr. Lewis A. Sayre and others, that the joint can be opened freely without much risk of fatal results, and the cases spoken of in this paper where the patient recovered after ligation of the femoral artery, added to the fact of the frightful mortality attendant upon amputation, even in the lower third of the femur; and we have, I think, data sufficient to warrant the effort to save the limb, where there is not great comminution of the joint.

The simple fact that a ball has been, or is, embedded in the cancellated structure of the head of the tibia or condyles of the femur, does not warrant us in resorting to amputation, and particularly so where the joint is not opened. I have, in many instances, removed balls from these positions by the trephine and gouge.

12. In compound and comminuted fracture of the shaft of the tibia, or even tibia and fibula, from bullet wounds, amputation should not be practised, since hundreds who have *accidentally* escaped the surgeons have recovered with only slight deformity. I think as many will survive by simply treating these injuries as if they were ordinary compound fractures from any other cause as would from amputation, and of course with much more useful limbs.

I now know of at least a dozen cases which were destined for amputation that are now recovering, and most of them will be as perfect as before the injury. As soon as practicable after the injury the wounded man should be placed on a bed or stretcher, and kept there until consolidation of the bone takes place—or until removed to some permanent place for treatment. Extension sufficient to keep the limb to near its normal length. Lateral support given by means of sand-bags placed longitudinally to prevent inversion or eversion of the foot as well as for the proper support of the limb. Extension kept up with no bandaging, and the treatment proceeded with as previously detailed in analogous injuries of the thigh—or, as if it were an ordinary compound fracture of the leg; but under no circumstances should excision be practised. All that can be required is to enlarge the incision, and remove loose spicula and other foreign bodies. I may here state, the great and potent reason why so many compound fractures do badly is the fact, that the injured limbs are either bound up tightly with bandage and splints, or carried from hospital to hospital without even the support of a stretcher; a proceeding which destroys even a limb with simple fracture, and much more one of compound and comminuted fracture.

13. Simple gunshot injuries of the ankle-joint do not necessitate amputation, while compound and comminuted fracture of this joint, and particularly where the arteries are much injured, may require amputation. Though with proper support, water dressings, irrigation, free incisions, etc., a great majority will recover without operative interference. The same rule is applicable to gunshot wounds of the foot as of the hand, and I can safely say that there is scarcely a bullet wound of the foot which requires amputation. I have seen the whole scaphoid bone carried away, and still a good recovery took place. So the destruction of the astragulus may occur, and still recovery may go on favorably. See the case of Garibaldi, in whose ankle-joint the ball remained for some weeks, and without unfavorable results.

15. In compound and comminuted gunshot injuries of the tarsal and metatarsal bones the same rule of action should be adopted as in like injuries of the hand, with the exception that a slight deformity is not of such vital importance in the former as in the latter.

No excision should be performed in the second or inflammatory stage.* If the operation cannot be performed before this stage sets in we ought to defer operation until the true second or suppurative stage.

In conclusion, I cannot urge too strongly the importance of having an abundance of stretchers for the immediate relief of the wounded, and particularly those wounded in the lower extremities, to which can be attached an india-rubber cover, in case of heavy dews or rains. By this means the patient is treated more successfully some days after injury than if he were transferred to close and ill-ventilated hospitals, houses, or even tents, since you avoid the danger of *foul* and pus-generating air. These appliances keep them from the wet above as well as below. There should be at least a sufficient number of these stretchers to supply all cases of amputations of the lower extremities, as well as compound and comminuted fractures of the same, where any effort is being made to save the limb; without them our efforts are futile, since the bedstead or stretcher becomes the splint. So in all cases of wounds of the trunk.

In excisions of the shoulder or elbow-joint, or in any severe injury of the shaft, where an attempt is being made to save the limb, these *appliances* are, to say the least, a *great auxiliary* to the *successful* treatment of this class of *injury;* and I might say, an *indispensable splint* or *support.*

The Long Island College Hospital commenced its session on Thursday, March 12, with an address by Prof. Enos. The class in attendance promises to be large.

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* I here present the condensed report of W. Van Steinburg, M.D., Surgeon to the 55th N.Y.S.V., who has treated twenty-one cases of compound and comminuted fractures of the thigh, two of which died. Of these there were three fractured in the upper third, and one death; twelve fractured in the middle third, and one death; six fractured in the lower third, and no death. These were treated by extension, supported by sand-bags applied in the long axis of the bone. This notice is due to the Doctor's sagacity and skill. The profession should know the comparative results, and I therefore submit his tables and remarks entire. If the Doctor could have taken the same cases from the field, and before material injury was done to the soft parts by bandaging and rough movement, placed them on stretchers, and kept them on the same with appropriate extension, his success would have been much more perfect, since after continued growing of the muscles has to any considerable degree taken place, extension cannot be effected as it could at first, and hence the imperfection spoken of. He says that: "Out of twenty-one cases of compound and comminuted fracture of the thigh taken indiscriminately, nineteen recovered with tolerably useful limbs. My plan of treatment has been by simple extension, as taught me by Dr. Swinburne. One case I will relate as well as possible from memory. Adjt. Wallace, 1st N.Y., was struck by a rifle-shot at the junction of the lower and middle third, the ball passing directly through "antero-posteriorly," comminuting the bone, and drawing the spicula into the muscles of the posterior part of the thigh. These I removed, and placed him on a stretcher, making extension from either end of said stretcher. I placed a leg of an old pair of knit drawers filled with sand upon each side of the broken limb, and told him not to suffer any one to remove him until he reached the General Hospital. He was taken to Washington and there placed upon a bed, and the extension kept up. The wound was made on the 30th of June, and in October he returned to the Regiment with a leg two inches shorter, and foot everted. The eversion was the result of neglect in treatment evidently."

* This Article divides gunshot injuries into three stages, the second of which is the congestive or inflammatory.

Progress of Medical Science.

PREPARED BY E. H. JANES, M.D.

BELLADONNA AND ATROPIA

Are, according to the *Med. Times and Gazette*, in favor at the Hospital for the Epileptic and Paralysed, as remedies for epilepsy. Under these remedies the patients are benefited, and though many cases are not cured, the number of fits is often diminished and the patient's general condition much improved. Many who have suffered for years are rendered capable of resuming a comparatively active life. The prescription generally used is extract of belladonna a quarter of a grain, quinine one grain, in a pill three times a day. Of atropine, the 1-120th of a grain is given three times a day. Both are gradually increased in dose, yet the only physiological effects observed are dryness of the throat and defective vision. The latter is in consequence of the ciliary muscle being partially or totally paralysed, by which the power of accommodation is impaired or altogether lost. One method of Dr. Brown-Sequard is, to inject a solution of atropine and morphia into a part from which an aura starts. A solution containing 1-60th of a grain of atropine and 1-4th of a grain of morphia is injected with Wood's syringe, sometimes with excellent results. He believes that belladonna and ergot both act by producing contraction on the blood-vessels; the former on those of the brain, the latter on those of the spinal cord. In paraplegia from myelitis, he gives a pill containing three grains of fresh ergot and a quarter of a grain of the extract of belladonna, three times a day. The action of belladonna in arresting the secretion of milk, and causing dryness of the throat, may be explained on the hypothesis of its diminishing the supply of blood to those parts.

OPIUM, CODEIN, ETC., IN SLEEPLESSNESS.

Instead of profuse administration of opium in delirium tremens, it is recommended to support the patient with tonics, stimulants, and nutrients; and when strong enough to bear it opium may be given. Dr. Brown-Sequard sometimes gives codein to produce sleep. It is not followed by the disagreeable effects which sometimes follow the administration of morphia. The dose, in a case reported, was two thirds of a grain, in pill. The amount of codein in opium is from 1-30th to 1-16th of that of morphia. At the Middlesex Hospital, Dr. Goodfellow employs subcutaneous injection of opium in order to get the patient asleep in delirium tremens. He thinks that it acts more quickly and produces less constitutional disturbance than when administered by the mouth.

POISONING WITH STRYCHNIA.

The Paris correspondent of the London *Medical Times and Gazette*, after giving some account of M. Gallard's researches on strychnia poisoning, thus concludes:—"Morphia and coneine have, in the hands of M. Gallard, not justified the hopes that were entertained of these substances. On the contrary, they have rather accelerated than retarded the death of those animals to which he administered as antidotes to strychnia. Atropine and inhalations of chloroform have also proved useless; and the only substance which seemed to have any beneficial effect was aconitine. An animal which had taken a dose of strychnia sufficient to kill it within ten or eleven minutes, survived two hours, and died at last with symptoms of poisoning by aconitine. Another animal, to which a small dose of the latter poison had been given, recovered perfectly after half an hour; three days after, in order to have an *Experimentum crucis*, the same animal was given the same dose of strychnia, after which it died in seventeen minutes. A third animal, however, which was poisoned with 2½ milligrammes of strychnia, died after seven minutes, in spite of the immediate administration of half a milligramme of aconitine, so that the latter cannot be considered an unfailing antidote to the former."

THE USE OF MEDICATED PESSARIES

is advocated in a paper read before the Obstetrical Society of London, by Dr. T. H. Tanner. In cases of uterine disease, to which medicated pessaries are adapted, a very convenient material for holding the drugs together is found in the butter obtained from the theobroma cacao nut, instead of wax or lard. When cold it has the consistence of wax, and may be readily applied by the patient herself, after which from the warmth of the vagina it soon becomes liquid. The following formulæ are recommended:—Mercurial ointment, four scruples; ext. of belladonna, one scruple; cacao butter, four drachms; olive oil, one drachm. Mix; divide into four pessaries, and order one to be introduced into the vagina every night. Iodide of potassium, one drachm; extract of conium, four scruples; cacao butter, four drachms; glycerine, one drachm. Mix; divide into four pessaries.

Reports of Societies.

UNITED STATES ARMY MEDICAL AND SURGICAL SOCIETY, OF BALTIMORE.

Stated Meeting, Feb. 12, 1863.

SURGEON C. C. COX, U.S.V., PRESIDENT, IN THE CHAIR.

[Reported by Geo. H. Dare, Acting Asst. Surg., U.S.V., Secretary.]

GUNSHOT FRACTURES.

Surgeon Z. E. Bliss, U.S.V., Vice-President of the society, opened the discussion by remarking that gunshot fractures could be reduced to three varieties, viz. 1, the *simple* (as where a spent solid shot strikes the limb, fracturing the bone without lacerating the soft parts); 2, *compound comminuted;* and, 3, the *compound complicated.*

He referred to the diagnosis of gunshot fracture, remarking, that it was not difficult to ascertain, by introduction of the finger into the wound, that a comminuted fracture existed, but that it was much more difficult and frequently impossible to determine the extent of the fracture. Especially was this the case in gunshot fractures near the joints. After amputation the bone was generally found more extensively injured than had been anticipated. He remarked that he would not speak separately of the different forms of gunshot fracture, but would proceed to give a few hints in reference to the question of primary amputation in gunshot wounds. Without attempting to lay down any general rule, which would be impossible with our present knowledge, he would not hesitate to assert that amputation would be advisable in a gunshot fracture of the knee-joint, producing extensive comminution, and that amputation would be necessary in a compound complicated gunshot fracture of any of the long bones, attended with extensive laceration of the soft parts, blood-vessels, and nerves, so as to preclude the possibility of maintaining sufficient vitality in the distal extremity of the limb to carry on the process of nutrition.

He would not advise primary amputation in compound and extensively comminuted gunshot fracture of the femur, where the femoral artery or knee-joint was not implicated; because almost every case of primary amputation of the femur for gunshot wounds, especially those above the junction of the lower with the middle third, results fatally, and we have a number of well authenticated cases, which have occurred during the present war, where soldiers, after severe gunshot wounds of the femur, have recovered with serviceable limbs, and some of them, too, under very unfavorable circumstances.

He would not advise primary amputation even in compound comminuted fracture of the humerus, where the brachial artery and vessels were uninjured, and there was no extensive laceration of the soft parts.

The removal of the spicula or comminuted portion of bone may be advisable in any case where the fragments are entirely detached, denuded of periosteum, the opening in the soft parts being large enough to admit of their easy extraction; but it is known that in a majority of cases the comminuted portions are either thrown by the slow process of suppuration, or become, as it were, revivified and unite with their fellows to form a connexion between the ends of the fractured bone.

The Doctor thought excision in the continuity of the humerus and femur, except in some rare instances, improper and unsatisfactory, especially in case of the femur. The same operation upon the bones of the forearm and leg had been more successful, particularly in secondary cases.

The operation of exsection of the joint, as a mode of treatment of gunshot fractures, involving the shoulder, elbow, and hip-joints, had not, as yet, been fully tested, but sufficient facts had been already obtained to prove that this operation often saves life and preserves a serviceable limb. The result depended to a great extent upon a proper selection of cases and the quantity of bone removed.

Dr. Bliss had removed the head of the humerus in two cases; he preferred and uses the letter S incision. In both cases the result was excellent. One especially proved highly satisfactory, the patient being able to carry his hand to his forehead and remove his cap without difficulty.

In speaking of the constitutional treatment, he advised generous diet and supporting treatment generally.

Assist. Surg. Cadden, U.S.V., reported a case as an exception to the rule laid down by Dr. Bliss—that after amputation the bone was usually found more extensively injured than had been anticipated. After the battle of Culpepper the question of amputation came up in the case of a man who had been shot through the femur a few inches above the knee by a fragment of shell. The continuity of the bone was not destroyed. The question was decided in the affirmative, on the ground that the bone had probably been fissured into the knee-joiet. Upon examination of the limb, after its removal, an oblong hole was found through the femur about one inch in its longest diameter. The bone was not fissured in any direction. The hole resembled that made by a pistol bullet through a suspended pane of glass.

(To be Continued.)

FOREIGN CORRESPONDENCE.

LETTER XXIX.

By PROF. CHARLES A. LEE.

WINES, AND THE WINE-GROWING COUNTRIES.

Coblentz on the Rhine, Sept. 21, 1862.

I am strongly tempted to forego medical subjects, hospitals, mineral waters, lunatic asylums, cretins, climate, etc., and expatiate upon the fascinating scenery of this renowned river; and I would begin by saying that its banks present every variety of wild and picturesque rocks, thick forests, and fertile plains; vineyards gently sloping or perched among lofty crags, where industry has won a domain among the fortresses of nature; whose banks are ornamented with populous cities, flourishing towns and villages, castles and ruins, with which a thousand legends are connected; with beautiful and romantic walls, and salutary mineral springs; and whose waters offer choice fish, as its banks produce the choicest wines. I have traced its course from the Swiss canton of the Grisons, where 241 glaciers contribute to supply its sources, and 56 romantic waterfalls diversify the scenery, down to this city, and have not ceased to admire its beauties at every step. But all this I forego, and remembering that I am writing only for medical men I must confine myself to subjects in which they are more especially interested. I shall therefore speak at present of the Rhine wines, the culture of the vine, and the vintage in this region, together with other matters connected with the juice of the grape, believing that more definite information on these points is still a desideratum.

From Bonn to Coblentz, and from this city to Mayence, the country is covered with vineyards, although to the north of this the vines are of little comparative note. The latitude of this city is nearly 51° corresponding with the northern shores of Newfoundland, or the southern borders of Hudson's Bay: and yet the finest and most aromatic wines of the world are the product of this favored region. Nowhere, indeed, is the fondness for vine cultivation more evident in every grade and class of farmers than in the vine districts bordering on this river and its tributaries. The humblest peasant has his little vineyard. Every accessible spot on the declivities and among the rocks and precipices with an auspicious aspect, is decorated with the favorite plant. Owing to the sloping banks, from Mayence to Bonn, the vineyards on either side of the Rhine are in full view, and in no other country on the globe are they seen to such advantage. Here is Erbach enthroned among vines; here the Rheingau, with its famed Johannisberg seated on a crescent hill of red soil, with every cranny cultivated that admits of vegetation; here are Mittleheim, Geisenheim, and Dudenheim, the last with its strong fine-bodied wine, the grapes basking in their promontory of rock in the warm summer sun, imbibing its generous heat from dawn to setting; and then again on the other side is old Bingen celebrated in song, delightful, sober, majestic, adorned on every side by its terraces of vines; the summits of the lofty hills and crags everywhere crowned with feudal relics or monastic remains. At Coblentz the soil first becomes particularly well adapted for the cultivation of the grape, though the right bank of the river is most noted for its wines. The *Rheingau*, the most celebrated of all the wine-growing districts, consists of an area of ten miles in length by four in breadth, which has been known for many centuries for the excellent quality of its produce. The valley of the Rhine, taking from Mayence a western and north-western course, exposes it to the warm southwest winds, which have a very salutary effect on the maturity of the grape. The Riessling, a small white grape, is the one chiefly cultivated here; and although not well adapted for table has a finer and more aromatic *bouquet*, it is said, than any other grape known. It is in the centre of this district, on a gentle eminence on the right bank of the Rhine, and in plain view from the river, that the celebrated Johannisberg vineyard is situated. This small domain of only forty acres in extent, yields on an average about 9600 gallons of white wine annually, selling in 1859 at public sale, for 60,000 dollars. I am told that four qualities of wine are produced from this vineyard, the best selling for over seven dollars per bottle, or twelve thousand florins ($6000) per tun. The price of the different qualities varies from $1.50 to $7 per bottle. It is sometimes sold, however, by the cask, especially in bad years. The cellars or vaults are very extensive, but it is difficult to gain admittance to them. There are no gardens attached to the Chateau, as the ground is too valuable, nor are there any trees, except on the north side of the house, where is a sort of wilderness of limited extent. The best wine, I am informed, is the product of vines growing close under the Chateau, and, indeed, partly over the cellars. The rare excellence of the wines of this district is generally accounted for from the advantageous exposure to the direct rays of the sun, and the peculiar qualities of the slaty soil, which retains the heat of the sun's rays, so necessary for bringing the grape to maturity. This is proved by the fact already stated, that the best wines are confined to the north bank of the river, the valley being completely sheltered from north and east winds by the intervening barrier of mountains. A good deal, however, is evidently owing to the careful management of the vines, and the great care bestowed on the vintage. The grapes, for instance, are allowed to remain on the vines as long as they can hold together, and the vintage never takes place till the grapes are more than perfectly mature. The vineyard is divided into small compartments, the produce of each of which is put into separate casks, and even in the best years there is a difference in the value of different casks.

In bad years the wine never goes into the cellars, but sells at once for what it will fetch. The best of the Rhine wines, after being fermented in casks, are repeatedly racked, and then suffered to remain for years in large reservoirs to acquire perfection by time. These huge casks contain 350 tuns. The Germans have always held that wines mellow best in large vessels, hence the celebrated Heidelberg tun, 31 feet long by 21 high and holding 600 hogsheads. Hence, also, the enormous tuns of Tübingen, Gruningen, and Konigstein, the last of which contains 3709 hogsheads. All these tuns were formerly kept carefully filled. Some of these I have examined, but could not ascertain that they had been filled for many years past. I have mentioned the Biessling grape, but there are also the Klimberger, the Traminer, and the small Orleans variety, all of which are cultivated in the Rheingau and produce excellent wines. The laborers are strictly forbidden to eat any grapes under the penalty of the loss of future employment, and during the vintage they are allowed double wages. The common wine-press is used. The gathering of the grapes is not completed at once, none but the ripest being picked, so that there are as many as three or four distinct pickings. Dry and fine weather is deemed indispensable for the vintage. For the choicest wines the ripest of the best kinds of grapes, grown in the most favorable situations, are cut off with small scissors, and after lying twenty-four hours are pressed separate from the rest.

The Rheingau is divided into the Upper and Lower Cantons, relating to the position of the vineyards near the summits of the hills, or on the margin of the river. The high grounds produce the strongest wines, while that of the lower ground has an earthy taste—the intermediate being considered the best and most wholesome, though much depends on the season. The Johannisberg and Steinberg rank first among the Rhine wines, and are on an equal footing as regards flavor and bouquet. Next to these follow Rudesheim, Markobrunner, and Rothesberg, all of which possess much body and aroma. The Hockheim grows on the banks of the Maine near Frankfort, and ranks with the best of the second class Rhine wines. Of the inferior wines the Erbach and Hattenheim are the best. But the lighter wines are apt to be hard and rather acid as table wines. The Laubenheim and Neirstein, from the Palatinate above Mayence, and the delicately flavored Moselle, are much preferred to them as table wines in Germany. The best red wine is the Asmanshausen, produced from vines originally brought from Burgundy. But the vine chiefly cultivated on the Rhine is the Riessling. All German wines have been called *Hock*, but this name is derived from and properly belongs to that produced at Hockheim near Frankfort, above mentioned, which stands in the midst of vineyards, on elevated ground and exposed to the full blaze of the sun. I found that the vineyard which produces the Hockheimer of the first growth is only about eight acres in extent, well sheltered from the northerly winds, on the side of a hill behind the deanery. But the average summer heat here is not sufficiently great, oftener than once in five or six years, to perfect a vintage of superior quality. The relative proportions of the different elements which enter into the composition of grape-juice, as sugar, albumen, gluten, pectine, gum, coloring matter, tannin, volatile oil, bitartrate of potash, etc., are so modified by the nature of the vine, quality of soil, and especially the heat of the climate, that there are few crops so uncertain as that of the vine, to say nothing of the *oinium* or other diseases which have of late years attacked this plant. The present season promises to be one of the most productive ever known, the vines everywhere being loaded with fruit. It is a well known fact in this region that wines of equal flavor and equal quality are rarely produced in two consecutive years, while in districts like this, on the very verge of the protective limits of the vine, its produce is still more variable and inconstant. I find the limits to the culture of the vine in Europe are generally fixed where the mean temperature is from 50° to 52° F., and I believe no drinkable wine can be produced under a colder climate. But the isothermal line of 50° which passes through Belgium in lat. 51°, in our country passes near Boston in lat. 42° 30′.

American Medical Times.

SATURDAY, MARCH 28, 1863.

ABORTION—ITS PREVALENCE, AND THE DUTIES OF THE PROFESSION.

The appearance in the courts of two abortionists within a short period, to answer to the charge of homicide, and the introduction of a more stringent Act against this crime into the Legislature of New York, are suggestive of the query—"How far does this evil exist at present in American communities, and what is the popular opinion in regard to this crime?" If viewed in the light of an ancient civilization, the question would seem to have some pertinency, but it appears the most obvious anachronism to canvass the frequency of this crime, and the state of popular opinion in regard to it, in a Christian community. Nevertheless, the fact of the existence of abortion as a common and even increasing evil, appears in our mortality records; and the evidences that the public do not look upon it as a flagrant crime, and regard its abettors as criminals, become painfully apparent when the horrible developments of murder, by the infamous acts of abortionists, are revealed.

The proportion of still-births to the living gives the only basis on which can be calculated the number of cases of abortion. These figures are, however, but approximative, for very many cases of still-birth are not produced abortions, while a vast number obviously escape detection and registration. Taking our mortality reports with all due allowance for these discrepancies, the record is still sufficiently humiliating. From these, it appears, that since the first registry in New York, in 1805, the proportionate and actual increase of still-births has been alarmingly rapid. In 1805, the ratio of fœtal deaths to the population was 1 to 1,633, but in 1849, 1 to 340. In 1856, the records show that 1 in every 11 is still-born in this city, while the reports of European countries, even allowing for criminal abortions, give the proportion of still-births at 1 in 15. Accurate records of the best practitioners give, as the ratio of premature births, or non-viable fœtuses, to the whole number of births, which includes, of course, only abortions from natural or accidental causes, 1 to 78; but in New York the ratio of the same births to the whole number is 1 to 40. The ratio of premature still-births at full time in this city, in 1846, was 1 in 10, and in 1856, ten years later, it had increased to 1 in 4. From these facts it is apparent, not only that produced abortions are frequent in this community, but that they are rapidly increasing. In seven years, from 1850 to 1857, the still-births doubled, and we have good evidence that since that period the proportion has rapidly increased.

New York may justly be taken as an index of this country. It certainly does not give an exaggerated representation. The registration returns of the State of Massachussetts show that the comparative frequency of abortions in that State is thirteen times as great as in New York city.

Allowing that some discrepancy in the returns must exist, they still prove the general prevalence of this crime in one of the most intelligent and moral communities of the United States. Whoever examines the advertising columns of country papers, and marks the large number of nostrums which in various and cunning phrases are recommended as certain to effect abortion, cannot doubt the wide and almost universal prevalence of this crime. It is painful to believe that the public conscience is not alive to the moral turpitude of abortion. And yet we have frequent evidence that it not only is not shocked at the criminality of the act, but that it even regards with indifference the revelations of the scenes of cruelty, debasement, and utter loss of every virtuous impulse which the courts often reveal to the public gaze. The horrible tale of seduction, abandonment, suffering and death brought to light in the case of Miss Anderson passed without a comment. On the contrary, it is to be feared that it was read by not a few with as much interest and as little profit as the idle tales of the magazines. It cannot be denied that in every grade of society lax opinions of the criminality of procured abortion exists. It is not alone the ignorant and vicious that consider it no crime; the religious equally entertain the belief that abortions may be practised without a shadow of guilt. Every physician must have been approached by persons of upright motives with solicitations to prescribe remedies or employ means which would terminate an early pregnancy. There cannot be a doubt that the public mind to-day is inclined to regard abortion as a crime only under certain circumstances. The life that is sacrificed is regarded as unreal, and the convenience or comfort of the parents is alone consulted.

Who is responsible for the tone of the public sentiment on the question of the criminality of abortion? We believe it rests entirely with the medical profession. Medical men know well that abortion is the sacrifice of human life; they know well, therefore, the heinousness of the offence. In their daily intercourse with their patients they have the opportunity and the power of inculcating correct opinions of the nature of this crime. Every truly conscientious physician performs this duty faithfully, and often most effectually; the erring and unthinking are instructed, and the lesson makes a profound and lasting impression. But there is a class of physicians who treat this subject with so much indifference that they sanction rather than discountenance the crime. In mild terms they object to employing means to produce abortion, and yet suggest the remedies by which it may be accomplished. The effect is pernicious, as the crime is generally perpetrated. There is still another class of medical men, standing on the boundary between legitimate medicine and quackery, who both advocate and practise abortion. They assume a sanctimonious air and a clerical dress, and under this specious guise practice the black art of abortionists. They are found in the most respectable medical circles, and make their professional associations subserve their base purposes. Judged by the moral code of a Christian civilization, they are the most abandoned criminals in the community, and should be thoroughly purged from the profession. In this city the Academy of Medicine, and in the country the Medical Societies, should inquire "Have we not abortionists among us?" We do not doubt that they will be found, and that too in startling numbers, especially in large cities.

The whole question of abortion, its religious, social, and professional bearings, should be discussed in all medical societies. The duties of our profession to itself, to religion, to the cause of humanity, should be established on a righteous basis, and every member should be compelled to conform his conduct to this standard.

THE WEEK.

The prevalence of typhus and typhoid fevers in the army, in military, and in many civil hospitals, is worthy of notice. In many instances the fever seems to be purely typhus, and very contagious. We hear almost daily notices of the sickness, and, too frequently, of the death of medical attendants. In another column we record the deaths of two members of the resident staff of Bellevue Hospital during the same week. It is to be feared that typhus may yet be prevalent in the military hospitals. To guard against this should be the study and effort of every surgeon in charge.

We are glad to learn that the Bill to provide additional aid for the sick soldiers from this State introduced into the Senate, does not meet with the favor of the profession or the public. It has not been reported from the Committee to which it was referred, and we hope it never will be in its present form. We desire to call attention to the letter of Surgeon-General Hammond to Dr. Quackenbush, Surgeon-General of this State, which must satisfy every person, that all such legislation is not only uncalled for, but most pernicious.

We cannot see the justice of the strictures which army surgeons often make against the Medical Department in relation to the furnishing of medical and hospital supplies. The supply table is certainly sufficiently full for all practical purposes. It was prepared by a Committee of eminent physicians and pharmaceutists, and embraces a more liberal supply of articles and drugs than is furnished to any army in the world. Much of the fault of not having a supply depends upon the negligence of the medical officers themselves, who do not promptly and properly order them. The following extract from the circular of the Surgeon-General, accompanying the supply table, shows how liberal the Department is in furnishing hospital materials:—

"The standard of medical and hospital supplies for the army is the following supply table. It is not the design of the Department to confine medical officers absolutely to that table, either in quantity or quality, but only to establish a standard for their guidance in making requisitions for supplies, leaving individual preferences to be indulged at the discretion of the Medical Director or the Surgeon-General. Neither is it supposed that the quantities of the table will always meet the necessities of unusual emergencies, as during epidemics, or in unhealthy seasons and localities; and medical officers who allow their supplies to be exhausted through any contingencies, without timely notice of their approaching necessities, will be held to a strict accountability.

"Medical Purveyors are charged, under the direction of the Surgeon-General, with the selection and purchase of all medical and hospital supplies for the army. In all cases of emergency they may provide such additional accommodations for the sick and wounded of the Army, and may transport such medical and hospital supplies as circumstances may render necessary. In all cases of emergency they shall promptly issue supplies on special requisitions made directly upon them; and such special requisitions shall consist simply of a list of the articles and quantities required, and be dated and signed by the medical officer who makes the requisition."

Army Medical Intelligence.

STATE AID IN THE CARE OF THE SOLDIERS.

LETTER FROM SURGEON-GENERAL HAMMOND TO THE SURGEON-GENERAL OF THE STATE OF NEW YORK.

SURGEON-GENERAL'S OFFICE,
WASHINGTON, D. C., March 2, 1863.

SIR:—I have the honor to acknowledge the receipt of your communication of the 25th ult., inclosing the copy of a bill proposed to be enacted by the Legislature of the State of New York, and asking my views upon the same.

I have read the bill very carefully, and whilst admitting the correctness of the motives by which its framers have been actuated, I am satisfied, from much experience, that its chief effects will be to create trouble and confusion, to cause ill-feeling between the representatives of the United States and the State, and to injure those whom it is intended to benefit.

I am satisfied that no military commander, who has the good of his troops at heart, would allow any agent of any State to interfere in the manner proposed in this bill. It would be found, in practice, wholly inoperative, and lead to the results indicated above, without any corresponding advantage being received.

Doubtless there are deficiencies in the medical administration of the army, as there are in all other departments. Perfection is impossible of attainment; but if I, with all my efforts, with the assistance of Medical Inspectors, Medical Directors, and over five thousand Surgeons and Assistant-Surgeons, together with the support of Commanding Officers, and all branches of the Federal Government, and the control of over ten millions of dollars per annum, cannot reach it, I am certain the agents of the State of New York will not be able to do better.

I, therefore, hope you will use your efforts to defeat this bill.

I am not alone in my opinion in regard to it, as all to whom I have mentioned it, including several officers of rank, agree with me that its passage would be most unwise.

I hope you will excuse me for the freedom with which I have written.

I am, sir, very respectfully, your obt. servt.,

WILLIAM A. HAMMOND, *Surgeon-General.*

J. V. P. QUACKENBUSH, M.D.,
Surgeon-General of New York, Albany, N. Y.

HEADQUARTERS DEPARTMENT OF THE TENNESSEE }
BEFORE VICKSBURG, March 6, 1863. }

ASS'T-SURG. GEN'L R. C. WOOD, *St. Louis, Mo.*

DEAR SIR:—Your letter showing the efforts you have been making to supply everything necessary pertaining to the Medical Department in this Army has been received. I can assure you nothing has been left undone here to secure the health of the men. No army ever went into the field better provided with medical stores and medical attendants than is furnished the Army now in front of Vicksburg.

There was a deficiency in Volunteer Surgeons, but now that deficiency is fully supplied. The hospital boats are supplied with their own Surgeons, nurses, and everything for the comfort of the sick. The Purveyor's Department not only has everything usually furnished the sick, but more than I ever dreamed was ever furnished an Army, more than the great majority of men could have at home. Then, too, there is not that amount of sickness persons would be led to believe from the statements in the public prints. I question whether the health of the St. Louis forces is better to day than that of this command.

On arrival here, the men had been pent up so long a time on steamers, then camping on low ground and in the most terrible weather ever experienced, there was for a time necessarily a great number of sick. Surgeon Laub has been sick ever since he arrived here, and entirely unfit to attend to any of his duties. The Dr. is not willing, or at least has never intimated a willingness to give up. I have, however, found it necessary for my own relief to order him away. The duties would be sufficient for the Doctor if in good health. As he is he is entirely incapable of them, and his desire to perform his duties would prevent his recovery, if he should be kept here.

Very respectfully,
Your obed't serv't,
U. S. GRANT,
Major-General.

CHANGES, ORDERS, &c.

The following named gentlemen have been appointed Surgeons of Volunteers: Drs. J. W. Fitzpatrick, J. M. McNulty, G. B. Twitchell, John Neil, R. M. S. Jackson, W. H. Gobrecht, Sanford B. Hunt.

The following named Assistant Surgeons of Volunteeas have been promoted to be Surgeons: Assistant Surgeon Ferd. Hayden, Chas. Hayden, Geo. R. Mayo, J. D. Brumley, J. R. Ludlaw, William Moss, Joseph H. Wythes, A. M. Clark, S. B. Davis, John Wilsan, E. D. Kittoe, S. S. Milford.

The following named persons have been appointed Assistant Surgeons of Volunteers: Drs Ernst W. Thurm, J. R. Ludlaw, J. D. Brumley, S. D. Carpenter, Charles Mayo, J. R. D. Lunde, W. Applegate, Ferd. Hayden, A. L. Braden, R. W. Pease, D. Johnson, Alexander M. Speer, R. W. Wilson, J. J. De Lamater, H. B. Buck, E. F. Bates, D. B. Hannan, J. W. Mintzer, J. W. Merriam, H. P. Mathewson, J. H. Peabody, D. S. Gloninger, S. D. Turney, G. R. Weeks, H. N. Fisher, J. B. Morrison, W. K. Moxley, W. W. Wythes, Henry Janes, C. F. Haynes, A. C. Benedict, J. M. Laing, Francis Greene.

Leave of absence has been granted to Acting Assistant Surgeon Thad. P. Seely for fifteen days, and to Surgeon Jas. S. de Benneville, 11th Pennsylvania Reserve Corps, for thirty days.

Dr. William Goodell, of Westchester, Pennsylvania, has declined the appointment of Surgeon of Volunteers, and Dr. R. S. Gloninger, of Philadelphia, the appointment of Assistant Surgeon of Volunteers.

Assistant Surgeon L. D. Harlow, U.S.V., in charge of General Hospital, Fourth and George Street, Philadelphia, has received orders to close that hospital, and report to the Medical Director for duty.

Surgeon G. W. Stipp, U.S.A., has been ordered to break up the Union Hospital at Georgetown, D. C., and turn over the property to the appropriate Departments, transferring the sick to the Carver Hospital.

Acting Assistant Surgeon F. G. H. Bradford, U.S.A., has been assigned to Eckington Hospital, Washington, D. C.

Assistant Surgeon M. H. Picot, U.S.V., to Lincoln Hospital, Washington, D. C.

Acting Assistant Surgeon J. C. Nelson, U.S.A., to Mountpleasant Hospital, Washington, D. C.

Leave of absence for twenty days has been granted to Surgeon S. N. Sherman, U.S.V.

Surgeon Francis Salter, U.S.V., is on duty with General Crooke, at Carthage, Tenn.

Surgeon G. W. Varnum, U.S.V., has been assigned to duty in charge of the Marine Hospital at St. Louis, Mo.

Assistant Surgeon W. B. Chambers, 60th New York Vols., and Charles L. Fisher, Scott's "900" New York Cavalry, have been mustered out of service to enable them to receive promotion.

Leave of absence for seven days has been granted to Acting Assistant Surgeon W. F. Munroe, U.S.A.

Assistant Surgeon C. W. White, U.S.A., has been ordered to report to the Medical Director, Middle Department at Baltimore, Md., for duty, to relieve Surgeon R. C. Stiles, U.S.A., who on being relieved will report in person at the Headquarters Army of the Potomac.

Assistant Surgeon J. F. Randolph, U.S.A., has been promoted to be Surgeon U.S.A.

Medical Inspector E. P. Vollum, U.S.A., has been ordered to proceed to General Grant's Headquarters and examine into the administration and condition of the Medical Department under that officer's command, and such other subjects in reference to medical administration as the Surgeon-General may direct.

Surgeon E. J. Baily, U.S.A., to report to the Medical Director at Baltimore, for duty in charge of the General Hospital at Wilmington, Del.

Surgeon E. McDonnell, U.S.V., to report in person at the Headquarters of Major-General Grant, and by letter to the Assistant Surgeon-General at St. Louis.

Surgeon Herman B. Linton, 175th Pennsylvania Vols., having tendered his resignation, has been mustered out of the service for neglect of the sick and inefficiency, as recommended by his Colonel, Brigade, Division and Department Commanders.

Surgeon A. K. Smith, U.S.A., has been ordered to report to Surgeon R. Murray, Medical Purveyor at Philadelphia, Pa., for duty in connection with the preparation of Medical Supplies.

Leave of absence for twenty days has been granted to Surgeon W. B. Little, 82d New York Vols.

Surgeon J. H. Herbst, U.S.V., has been assigned to duty as Surgeon-in-Chief, 2d Division, 12th Army Corps, Army of the Potomac.

Surgeon W. D. Stewart, U.S.V., has been assigned to duty in charge of the General Hospital at Mound City, Ill.

Surgeon H. J. Churchman, U.S.V., has relieved Surgeon Ira Russell, U.S.V., in charge of the General Hospitals at Fayetteville, Ark.

Surgeon O. M. Bryan, U.S.V., is on duty at La Mesilla, Arizona.

Surgeon J. E. Quidor, U.S.V., is on duty as Inspector of Hospitals at Memphis, Tenn.

Assistant Surgeon Adam Garrison, Independent City Guards, Virginia Vols., having tendered his resignation, has been discharged the service to date January 9, 1863.

Surgeon J. Q. Osborne, 42d New York Vols., now on leave of absence, has been ordered to rejoin his regiment without delay.

Obituary.

PROFESSOR CHARLES HOOKER, M.D.

Prof. Charles Hooker died in Newhaven, Conn., on March 19. He was a native of Berlin, Conn., and a descendant of the leader of the first settlers at Hartford, the Rev. Thomas Hooker. He graduated with honor in Yale College, in 1822, in the class of which President Woolsey and Dr. Bacon were members. On graduating from the Medical Institution of the College, he began practice in Newhaven, and from that time has been known as one of the busiest and most indefatigable men in the community in which he resided. In 1828 he was appointed to the chair of Anatomy and Physiology, which he retained until his death. Prof. Hooker was the author of several valuable papers. In his death the profession has lost one of its most esteemed members.

William Henry Cooke, M.D.
William Henry King, M.D.,

Dr. Cooke was a native of West Hampton, Mass. He commenced the study of his profession with Dr. Dunlap, an eminent practitioner of Northampton, Mass., and attended his first course of lectures at the Berkshire Medical School. He subsequently was entered as a pupil of Prof. Parker, of this city, and graduated at the College of Physicians and Surgeons in 1862. He took the Harsen prize, being a Clinical Report from the wards of the New York Hospital. He entered Bellevue Hospital April 1st, 1862, and was senior assistant physician at the time of his death. Dr. Cooke was an indefatigable student, and gave promise of future eminence in his profession. His last contribution was an interesting and well written paper on the Diarrhœa of Soldiers, as it appeared at Bellevue Hospital, which appeared in the Medical Times of February 28.

Dr. King was born at North Egremont, Mass. Left to his own resources, he obtained a good education, and supported himself for several years as a teacher in New Jersey. He pursued the study of medicine with Dr. Richard Beebee, of South Eginton, and Dr. Holmes, of Cranbury, N. J. He graduated at the Bellevue Hospital Medical College in 1862, and entered the hospital department in April of that year. He left the hospital but two or three weeks preceding his death, and engaged as a contract physician in the U. S. General Hospital, at Newark, where he was attacked with the fever of which he died.

The following Resolutions were passed by the Resident Medical Staff of Bellevue Hospital:—

Bellevue Hospital, March 23, 1863.

Whereas, In the midst of the faithful performance of their professional duties, the wisdom of an inscrutable Providence has deemed it proper to remove from our number Henry W. Cook, M.D., and Wm. H. King, M.D.

Therefore be it Resolved, That in their death we feel poignant sorrow and regret in the loss of those who have been associated with us in the closest ties of friendship and love, as well as in the common interests of a self-sacrificing profession.

Resolved, That with the Relatives and Friends of our deceased associates, we do sincerely mourn, as for a common brother; and that, as an expression of our loss, we will wear the usual badge of mourning thirty days.

W. R. Gillette, T. K. Chandler, H. E. Paine, *Committee.*

Medical News.

College of Physicians and Surgeons.—The Annual Commencement of the College of Physicians and Surgeons took place March 12th. President Delafield conferred degrees upon the following graduates:

Wm. B. Almon, Nova Scotia; W. A. Anderson, Maine; B. A. Ball, A.B., New York city; Joseph Bird, A.B., New Jersey; Lewis H. Bodman, Massachusetts; Garobed Caloosdian, Turkey; W. M. Carpenter, Madison county, New York; John E. Cary, New Jersey; George A. Christie, Nova Scotia; Ed. Cowles, A.B., M.D., Vermont; A. E. Croucher, Nova Scotia; W. F. Cushman, A.B., New York city; Rezin P. Davis, Virginia; Walter De. F. Day, A.B., Greene county, New York; D. O. Farrond, Michigan; Samuel A. Fitch, A.B., Delaware county, New York; De Witt C. Fowler, Onondaga county, N. Y.; W. R. Gillette, A.B., New York city; Frank West, Goodall, Vt.; W. B. Griswold, A.B., Connecticut; Chas. E. Hall, New York; W. H. Harlin, Kings county, N. Y.; Frank G. Hasbrouck, Rockland county, N. Y.; John C. Hasbrouck, Ulster county, N. Y.; Solomon E. Hasbrouck, Ulster county, N. Y.; D. W. Hodgkins, New York city; E. K. Hogan, New York city; J. Hutchinson, New Brunswick; Woolsey Johnson, A.B., New York city; Chas. S. Kittredge, New Jersey; William Lee, District of Columbia; Elias Lester, Cayuga county, N. Y.; Wm. S. Ludlam, New York city; Irving W. Lyon, M.D., New York city; G. V. R. Merrill, Chemung county, N. Y.; Henry E. McCortin, New York city; Theodore A. McGrow, Michigan; M. A. Miller, New York city; Lucius Mills, Ohio; Sherman Morse, Yates county, N. Y.; John D. Nicoll, Orange county, N. Y.; Wilbur F. Matten, Wayne county, N. Y.; Patrick Pendegrast, New York city; Peter V. S. Pruyn, A.B., Columbia county, N. Y.: Burr Schermerhorn, Schenectady county, N. Y.; A. O. Shaw, Maine; Amos Shaw, Jr., New Jersey; Andrew J. Smith, Joseph G. Smith, Schenectady county, N. Y.; Thomas Thompson, Delaware county, N. Y.; Lewis A. Tracy, Connecticut; Walter H. Wentworth, Columbia county, N. Y.; Lewis Westfall, Washington county, N. Y.; Jas. H. Wheeler, New Hampshire; Benj. Wilson, Wayne county, N. Y.; G. S. Winston, New York city; L. De Forrest Woodruff, New York city.

President King of Columbia College delivered the charge to the graduates; A. Brayton Ball the valedictory; and Dr. W. C. Roberts the address to the Alumni. A. Brayton Ball received the first prize of fifty dollars, for an essay on "Hospital Gangrene," and James H. Wheeler the second, of twenty-five dollars, for a dissertation on pneumonia.

At the Annual Commencement of the Medical Department of the University of Buffalo, the following gentlemen received the degree of *Doctor in Medicine:* Heman Potter Babcock, Buffalo, Erie County, N. Y.; Gilbert Birdsall, Butternuts, Otsego County, N. Y.; Andrew Thomas Dunn, Brockville, Leeds County, C. W.; James Usher Babcock, Elmira, Chemung County, N. Y.; Howard Wellington Vickery, Darien, Genesee County, N. Y.; George Dean, Sullivan, Chemung County, N. Y.; Edwin Booth, Jelloway, Knox County, Ohio; Benjamin Booth Ross, Belleville, Hastings County, C. W.; Nehemiah Osborn, Belleville, Hastings County, C. W.; Robert Wickliffe Gifford, Ashtabula, Ashtabula County, Ohio; John Henry Tanner, Hartford, Cortland County, N. Y.; James Dormid, De Ruyter, Madison County, N. Y.; Asa John White, Mecklenberg, Schuyler County, N. Y.; Dascomb Allen Farrington, East Aurora, Erie County, N. Y.; Andrew Jackson Scott, Loudonville, Ashland County, Ohio.; Orlando L. Abbey, Union Mills, Erie County, Pa.; John Coventry, Clarkville, Kent County, C. W.; Earl Byron Lonusbury, Bethany Mills, Genesee County, N. Y.; Fletcher Miller Follett, Machias, Cattarauges County, N. Y.; Daniel Winter, Pekin, Niagara County, N. Y.; David Hershey, Fort Erie, C. W.; Edwin Parker Moore, Jamestown, Chautauqua County, N. Y.; Jeremiah Andrews, Sugar Grove, Warren County, Pa.; Edward H. Beaman, Ridgeway, C. W.

METEOROLOGY AND NECROLOGY OF THE WEEK IN THE CITY AND COUNTY OF NEW YORK.

Abstract of the Official Report.

From the 16th day of March to the 23d day of March, 1863.

Deaths.—Men, 113; women, 109; boys, 106; girls, 107; total, 435. Adults, 222; children, 213; males, 219; females, 216; colored, 17. Infants under two years of age, 182. Children born of native parents, 85; foreign, 156.

Among the causes of death we notice:—Apoplexy, 3; infantile convulsions, 25; croup, 18; diphtheria, 28; scarlet fever, 15; typhus and typhoid fevers, 13; consumption, 85; small-pox, 0; measles, 1; dropsy of head, 7; infantile marasmus, 18; cholera infantum, 0; inflammation of brain, 11; of bowels, 8; of lungs, 49; bronchitis, 6; congestion of brain, 0; of lungs, 0; erysipelas, 6; diarrhœa and dysentery, 8. 214 deaths occurred from acute diseases, and 32 from violent causes. 286 were native, and 149 foreign; of whom 104 came from Ireland; 66 died in the City Charities; of whom 16 were in Bellevue Hospital.

Abstract of the Atmospherical Record of the Eastern Dispensary, kept in the Market Building, No. 57 Essex street, New York.

Mar. 1863	Minimum Temp'ture.	SIX A.M.				TWO P.M.				TEN P.M.			
		Temperature.	Evaporation Below.	Barometer.	Wind.	Temperature.	Evap. Below.	Barometer.	Wind.	Temperature.	Evap. Below.	Barometer.	Wind.
	°	°				°				°			
15th.	11	12	2	30.10	N.W.	26	4	30.05	W.	23	3	30.10	N.E.
16th.	18	20	2	30.06	N.E.	27	4	30.11	S.	25	3	30.09	N.E.
17th.	27	28	5	30.08	W.	42	5	30.12	W.	37	1	30.07	S.W.
18th.	28	36	2	30.00	N.	40	6	30.10	N.	32	4	30.30	N.
19th.	19	20	3	30.50	N.W.	36	6	30.51	N.W.	29	3	30.47	N.W.
20th.	18	19	3	30.44	N.W.	28	6	30.41	N.	25	4	30.50	N.W.
21st.	25	26	4	30.58	N.E.	40	3	30.60	N.	36	1	30.47	N.E.

REMARKS.—15th, Fine day; fresh wind; cloudy P.M. 16th, Cloudy, with fresh wind. 17th, Fine. 18th, Cloudy A.M.; clear P.M., wind fresh. 19th and 20th, clear, with fresh wind. 21st, Cloudy, light rain and snow at night. The mercury in the barometer ranged very high during the week.

SPECIAL NOTICES.

NEW YORK ACADEMY OF MEDICINE.—*On Wednesday, April* 12, DR. PERCY *will resume the narrative of his experiments with "Veratrum" on animals by a relation of its therapeutic uses, illustrating its action on the vascular system, and its diagnostic properties in certain diseases.*

AMERICAN MEDICAL ASSOCIATION.

OFFICE MEDICAL EXAMINER, CHICAGO,
February 20, 1863.

The next regular Annual Meeting of the American Medical Association will be held in the City of Chicago, Illinois, on the first Tuesday in June, 1863. Every permanently organized State, County, and Local Medical Society is entitled to send one Delegate for every ten members, and one additional Delegate for a fraction of more than half of that number. Medical Colleges, and Hospitals containing over 100 beds for the sick, are entitled to two Delegates; and all other permanently organized Medical Institutions are entitled to one Delegate each.

The Committee earnestly desire a full attendance from all parts of the country.

By order of the Committee of Arrangements,
N. S. DAVIS, *Chairman.*

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